

This listing of claims will replace all prior versions and listings of claim in the application:

Listing of the Claims:

Claims 1-23. (cancelled).

24. (currently amended) A method of fabricating a semiconductor wafer comprising the steps of:

loading a wafer into a wafer process station using a transport system;

processing the wafer in the process station;

transferring the wafer to a metrology station spaced apart but coupled to the process station using the transport system;

generating a broadband light beam outside of said metrology station;

transferring said broadband light beam into said metrology station with an optical fiber;

obtaining a first measurement of the spectral content of the broadband light beam which has been reflected from the wafer;

obtaining a second measurement of the spectral content of the broadband light beam which has not been reflected from the wafer; and

evaluating the sample based on the first and second measurements, where the second measurement is used to correct for system characteristics.

25. (previously presented) The method as recited in claim 24, wherein said first and second measurements are obtained simultaneously.

26. (previously presented) The method as recited in claim 24, wherein the broadband light beam is generated by a UV light source.

27. (previously presented) The method as recited in claim 24, wherein the broadband light beam is generated by a light source defined by at least one lamp, said light source emitting a range of wavelengths, said range of wavelengths including visible and ultraviolet light.

28. (previously presented) The method as recited in claim 24, wherein the step of processing the wafer includes polishing.

29. (previously presented) The method as recited in claim 24, wherein the broadband light beam is generated by a lamp selected from the group consisting of a UV xenon lamp, a tungsten lamp, a deuterium lamp and a xenon lamp.